

## RESPONSE

### Claim Amendments

Applicants have made various amendments to address the rejections raised by the Action. The “ultrafine modified Al(OH)<sub>3</sub>” has been amended in each claim to “an oxalic-modified Al(OH)<sub>3</sub> material.” Support is found in paragraph [0026], line 8-10. Claims 1, 2, 3, 4, 8, 9, 26, 27, 28 and 30 have also been amended to clarify that 2θ relates to angles, and to also improve their readability.

### Election

Applicants affirm that election of Group I, Claims 1-9 and 26-30. The election is affirmed without traverse, though Applicants reserve the right to have method claims rejoined as appropriate. Claims 10-25 drawn to a method, and a product made by the method, are withdrawn.

### Rejection Under 35 USC §112

Applicants respectfully request reconsideration and withdrawal of the rejections under 35 USC §112, 2<sup>nd</sup> paragraph, in view of the amendments to the rejected claims 1, 2 and 26, which remove the alleged indefiniteness in the claims.

### Rejections Under 35 U.S.C 102(a), (b) and 103(a)

Claims 1-9 and 24-30 were rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Armburst et al. U.S. Patent Number 3,268,295, or Wall U.S. Patent Number 2,549,549, or Sato et al. U.S. Patent Number 3,839,536, or Trebillon U.S. Patent Number 4,492,682, or the English Language Patent Abstract of Japan Publication number 62-235210, or Musselman et al. U.S. Patent Number 5,480,587.

Armburst et al., Wall, Sato et al., Trebillon, and JP Abstract all teach the production of ultrafine Al(OH)<sub>3</sub> by introduction of carbon dioxide gas into a sodium aluminate solution under pressure, which allegedly encompasses applicant’s disclosed high gravity rotating bed apparatus, to form a gel or gel-like suspension of ultrafine modified Al(OH)<sub>3</sub>, that can subsequently be filtered and dried and then subjected to other process steps if desired, see abstract and claims of each reference. The Examiner concluded that applicant’s claimed ultrafine modified Al(OH)<sub>3</sub>, and the fire retardant product containing them, are thus deemed to be anticipated over the individual disclosures of these references. In the alternative, the Examiner states that “applicant’s claims may

differ from applicant's claimed invention" (Note: Applicant is not clear what this means.) in that it is unclear if the ultrafine modified  $\text{Al(OH)}_3$  as taught by the applied prior-art references, actually meet applicant's claimed diffraction Peaks by XRA spectrum at the locations of the listed D values and 2  $\theta$  angles, since said XRA spectrum data is not directly disclosed by the applied prior-art references. In any case, he continued that applicant's claims are deemed to be obvious over the individually applied prior-art references because the references teach the same basic method of making ultrafine modified  $\text{Al(OH)}_3$  that applicant discloses, and thus it would be well within the skill of the artisan having ordinary skill in the art to make ultrafine modified  $\text{Al(OH)}_3$  that are within applicant's claimed parameters if such is desired. Furthermore, applicant has set forth no showing of any superior and unexpected results that may or may not be present when ultrafine modified  $\text{Al(OH)}_3$  has applicant's particularly claimed XRA Spectrum.

The Examiner also stated that Musselman et al. directly teaches the use of ultrafine modified  $\text{Al(OH)}_3$ , as fire retardant additives for polymers. The taught ultrafine modified  $\text{Al(OH)}_3$ , additives are deemed to anticipated applicant's claimed ultrafine modified  $\text{Al(OH)}_3$ , see abstract, Figs. 3-5, column 4, lines 22-31 and column 5, lines 25-60. In the alternative, "applicant's claims may differ from applicant's claimed invention" in that it is unclear if the ultrafine modified  $\text{Al(OH)}_3$  as taught by the Musselman et al., actually meet applicant's claimed diffraction Peaks by XRA spectrum at the locations of the listed D values and 2  $\theta$  angles, since said XRA spectrum data is not directly disclosed by Musselman et al. In any case, applicant's claims are deemed to be obvious over Musselman et al. Furthermore, applicant has set forth no showing of any superior and unexpected results that may or may not be present when ultrafine modified  $\text{Al(OH)}_3$  has applicant's particularly claimed XRA Spectrum.

Applicants request reconsideration of the rejection in view of the amendments that have been made to the claims.

Note that Applicants have withdrawn Claims 24 and 25 as drawn to a product made by the process of Claims 10-23.

The present amended claims provide for an oxalic-modified aluminum hydroxide material that has unique physical properties determined by X-ray diffraction.

The prior art references cited above by the examiner (Armburst et al., Wall, Sato et al., Trebillon, the JP Abstract, and Musselman et al) describe aluminum hydroxide and certain modified

aluminum hydroxide materials, but none of the references disclose, or suggest, an oxalic-modified aluminum hydroxide as claimed. Therefore, the present invention is novel, and non-obvious, over each cited reference.

Claims 1-9 and 24-30 were also rejected under 35 U.S.C. 102(a or b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over the English Language Abstract of CN1258639A. The Examiner noted: “this rejection is made under 35 U.S.C. 102(a or b) because applicant neither file a copy of PCT/CN01/00810 05/18/2001 nor did applicant submit an English Language translation of this priority document which applicant’ pending application is a CIP of. As such, the examiner does know what the actual effective filing date should be for the applicant’s pending claims.”

The Examiner states that the English Language Abstract of CN1258639A teaches the production of ultrafine modified  $\text{Al(OH)}_3$  by introducing carbon dioxide gas into a sodium aluminate solution under ultragravity conditions, such as a rotating bed apparatus, to form a gel or gel-like suspension of ultrafine modified  $\text{Al(OH)}_3$ , that can subsequently be filtered and dried and then subjected to other process steps if desired, see abstract and claims of each reference; and that Applicant’s claimed ultrafine modified  $\text{Al(OH)}_3$  and the fire retardant product containing them, are thus deemed to be anticipated over the CN Abstract. In the alternative, he said, “applicant’s claims may differ from applicant’s claimed invention” in that it is unclear if the ultrafine modified  $\text{Al(OH)}_3$  is taught by the CN Abstract, actually meets applicant’s claimed diffraction Peaks by XRA spectrum at the locations of the listed D valuates and 2 $\theta$  angles, since said XRA spectrum data is not directly disclosed by the CN Abstract. In any case, applicant’s claims are deemed to be obvious over the CN Abstract because the reference teaches the same basic method of making ultrafine modified  $\text{Al(OH)}_3$  that applicant discloses, and thus it would be well within the skill of the artisan having ordinary skill in the art to make ultrafine modified  $\text{Al(OH)}_3$  that are within applicant’s claimed parameters is such is desired. Furthermore, he said, applicant has set forth no showing of any superior and unexpected results that may or may not be present when ultrafine modified  $\text{Al(OH)}_3$  has applicant’s particularly claimed XRA Spectrum.

Applicants are submitting (see below) an English translation of this priority document with this Response.

Regardless, Applicants request reconsideration of the rejection in view of the amendments that have been made to the claims.

The present amended claims provide for an oxalic-modified aluminum hydroxide material that has unique physical properties determined by X-ray diffraction.

CN1258639A does not disclose, or suggest, the present invention as claimed, as an oxalic-modified aluminum hydroxide. Applicants are not aware of any suggestion in the reference to modify the aluminum hydroxide, and in particular with an oxalate. Therefore, the present invention is novel, and non-obvious, over this reference.

**Priority Document and Translation**

Applicants submit herewith a copy of the PCT Publication WO 02/94715 A1, (PCT Appln CN01/00810) to which the present application claims priority. Also enclosed is a notification from the International Bureau that the International Application had been sent to the U.S. as a designated office. Also accompanying this response is an English-language translation of the PCT Application.

This is believed to represent a complete response to the Action. Reconsideration and allowance is respectfully requested.

Respectfully submitted,

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By



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